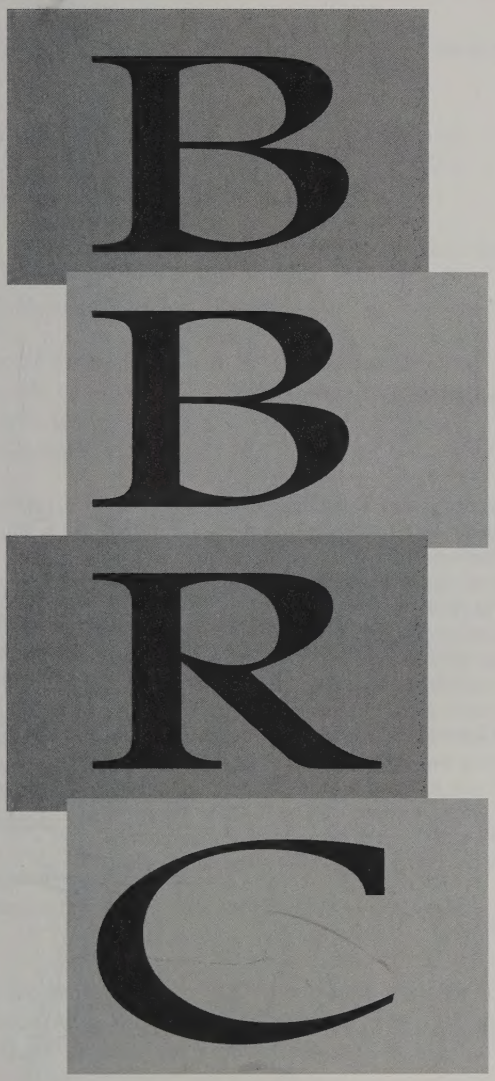

Biochemical and Biophysical Research Communications

EDITORS
Ernesto Carafoli
I. C. Gunsalus
Akira Ichihara
James D. Jamieson
Yasuo Kagawa
M. Daniel Lane
William J. Lennarz
Masami Muramatsu
Sten Orrenius
Jacques Pouyssegur
William S. Reznikoff

Volume 255, 1999

ACADEMIC PRESS

Copyright © 1999 by Academic Press

ALL RIGHTS RESERVED

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the Publisher. *Exceptions:* It is the policy of Academic Press that authors need not obtain permission in the following cases only: (1) to use their original figures or tables in their future works; (2) to make copies of their papers for use in their classroom teaching; and (3) to include their papers as part of their dissertations.

The appearance of the code at the bottom of the first page of an article in this journal indicates the Publisher's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (222 Rosewood Drive, Danvers, Massachusetts 01923), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1999 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0006-291X/99 $30.00

MADE IN THE UNITED STATES OF AMERICA

This journal is printed on acid-free paper.

CONTENTS OF VOLUME 255

Number 1, February 5, 1999

R-Loop in the Replication Origin of Human Mitochondrial DNA Is Resolved by RecG, a Holliday Junction-Specific Helicase	**Takashi Ohsato, Tsuyoshi Muta, Atsushi Fukuoh, Hideo Shinagawa, Naotaka Hamasaki, and Dongchon Kang**	1
A Comparative Study of Apoptosis and Necrosis in HepG2 Cells: Oxidant-Induced Caspase Inactivation Leads to Necrosis	**Afshin Samali, Helena Nordgren, Boris Zhivotovsky, Elizabeth Peterson, and Sten Orrenius**	6
Signal Transduction in Rat Vascular Smooth Muscle Cells: Control of Osmotically Induced Aldose Reductase Expression by Cell Kinases and Phosphatases	**Agata Fazzio, Stefan E. Spycher, and Angelo Azzi**	12
Refolding of Thioredoxin Reductase Assisted by groEL and PDI	**P. Y. Cheung, J. E. Churchich, and K. S. Lee**	17
Stimulation of Tyrosine Phosphorylation by Progesterone and Its 11-OH Derivatives: Dissection of a Ca^{2+}-Dependent and a Ca^{2+}-Independent Mechanism	**Francisco Martinez, Jan Tesarik, Carmen-Maria Martin, Agatangelo Soler, and Carmen Mendoza**	23
Three Steroidogenic Factor-1 Binding Elements Are Required for Constitutive and cAMP-Regulated Expression of the Human Adrenocorticotropin Receptor Gene	**Danielle Naville, Armelle Penhoat, Philippe Durand, and Martine Begeot**	28
Identification of Caveolin-1 as a Fatty Acid Binding Protein	**Bernardo L. Trigatti, Richard G. W. Anderson, and Gerhard E. Gerber**	34
Functional Organization of the Human Uncoupling Protein-2 Gene, and Juxtaposition to the Uncoupling Protein-3 Gene	**Claire Pecqueur, Anne-Marie Cassard-Doulcier, Serge Raimbault, Bruno Miroux, C. Fleury, Chantal Gelly, Frédéric Bouillaud, and Daniel Ricquier**	40
Light-Dependent and Rhythmic *psbA* Transcripts in Homologous/Heterologous Cyanobacterial Cells	**Ganesh Kumar Agrawal, Munehiko Asayama, and Makoto Shirai**	47
In Vitro Binding Study of Adaptor Protein Complex (AP-1) to Lysosomal Targeting Motif (LI-Motif)	**Hideaki Fujita, Masayo Saeki, Kumiko Yasunaga, Tadashi Ueda, Taiji Imoto, and Masaru Himeno**	54
Identification and Mutation Analysis of *DOC-1R*, a DOC-1 Growth Suppressor-Related Gene	**Xue Zhang, Hensin Tsao, Takanori Tsuji, Shinsei Minoshima, Jim McBride, Paul Majewski, Randy Todd, Nobuyoshi Shimizu, David T. W. Wong, David E. Housman, and Frank G. Haluska**	59
Retinoic Acid Potentiates TNF-α-Induced ICAM-1 Expression in Normal Human Epidermal Keratinocytes	**Sophie Janssens, Luc Bols, Marc Vandermeeren, Guy Daneels, Marcel Borgers, and Johan Geysen**	64

5 2018 XL 408 5/99 31249-200

Styrene and Styrene Oxide Affect the Transport of Dopamine in Purified Rat Striatal Synaptic Vesicles	**Saroj K. Chakrabarti**	**70**
Bioconjugation of Laminin Peptide YIGSR with Poly(Styrene Co-maleic Acid) Increases Its Antimetastatic Effect on Lung Metastasis of B16-BL6 Melanoma Cells	**Yu Mu, Haruhiko Kamada, Yoshihisa Kaneda, Yoko Yamamoto, Hiroshi Kodaira, Shin-ichi Tsunoda, Yasuo Tsutsumi, Mistuko Maeda, Koichi Kawasaki, Motoyoshi Nomizu, Yoshihiko Yamada, and Tadanori Mayumi**	**75**
Hepatocyte Growth Factor Is a Major Mediator in Heparin-Induced Angiogenesis	**Masaharu Okada, Akira Matsumori, Koh Ono, Tadashi Miyamoto, Mamoru Takahashi, and Shigetake Sasayama**	**80**
Generation of Highly Site-Specific DNA Double-Strand Breaks in Human Cells by the Homing Endonucleases I-*Ppo*I and I-*Cre*I	**Raymond J. Monnat, Jr., Alden F. M. Hackmann, and Michael A. Cantrell**	**88**
Regulation of ProMMP-1 and ProMMP-3 Activation by Tissue Factor Pathway Inhibitor-2/ Matrix-Associated Serine Protease Inhibitor	**C. N. Rao, S. Mohanam, A. Puppala, and Jasti S. Rao**	**94**
Mutations in the *p53* and *Scid* Genes Do Not Cooperate in Lymphomagenesis in Doubly Heterozygous Mice	**S. Kosugi, T. Miyazawa, D. Chou, Y. Saito, T. Shinbo, A. Matsuki, H. Okano, C. Miyaji, H. Watanabe, K. Hatakeyama, O. Niwa, and R. Kominami**	**99**
Selection of a Peptide Ligand to the p75 Neurotrophin Receptor Death Domain and Determination of Its Binding Sites by NMR	**Leopold L. Ilag, Christine Rottenberger, Edvards Liepinsh, Günter Wellnhofer, Fritz Rudert, Gottfried Otting, and Leodevico L. Ilag**	**104**
Transforming Growth Factor β Triggers Two Independent-Senescence Programs in Cancer Cells	**Yoshinori Katakura, Eriko Nakata, Takumi Miura, and Sanetaka Shirahata**	**110**
SHC1, a High pH Inducible Gene Required for Growth at Alkaline pH in *Saccharomyces cerevisiae*	**Sung Ki Hong, Seung Baek Han, Michael Snyder, and Eui Yul Choi**	**116**
Cloning and Expression of Two Carbonyl Reductase-like 20β-Hydroxysteroid Dehydrogenase cDNAs in Ovarian Follicles of Rainbow Trout (*Oncorhynchus mykiss*)	**Guijun Guan, Minoru Tanaka, Takashi Todo, Graham Young, Michiyasu Yoshikuni, and Yoshitaka Nagahama**	**123**
IL-1 Rescues Scleroderma Myofibroblasts from Serum-Starvation-Induced Cell Death	**Theresa Z. Kirk and Maureen D. Mayes**	**129**
The NAD^+ Precursors, Nicotinic Acid and Nicotinamide Upregulate Glyceraldehyde-3-Phosphate Dehydrogenase and Glucose-6-Phosphate Dehydrogenase mRNA in Jurkat Cells	**Qing Yan, Margaret Briehl, Cara L. Crowley, Claire M. Payne, Harris Bernstein, and Carol Bernstein**	**133**
Isolation of cDNA, Chromosome Mapping, and Expression of the Human TBP-Like Protein	**Tetsuya Ohbayashi, Toshihiko Kishimoto, Yasutaka Makino, Miho Shimada, Tomoyoshi Nakadai, Tsutomu Aoki, Takefumi Kawata, Shin-ichiro Niwa, and Taka-aki Tamura**	**137**

Kupffer Cell-Mediated Down Regulation of Rat Hepatic CMOAT/MRP2 Gene Expression	**Jun-ichi Nakamura, Toshirou Nishida, Ken'ichiro Hayashi, Norifumi Kawada, Shigeyuki Ueshima, Yuichi Sugiyama, Toshinori Ito, Kenji Sobue, and Hikaru Matsuda**	143
A Model Phosphatase 2C → Phosphatase 1 Activation Cascade via Dual Control of Inhibitor-1 (INH-1) and DARPP-32 Dephosphorylation by Two Inositol Glycan Putative Insulin Mediators from Beef Liver	**L. C. Huang, D. Heimark, J. Linko, R. Nolan, and J. Larner**	150
Transcription Initiation Mediated by Initiator Binding Protein in *Saccharomyces cerevisiae*	**Tomoko Ohishi-Shofuda, Yuriko Suzuki, Ken-ichi Yano, Hiroshi Sakurai, and Toshio Fukasawa**	157
The Key Amino Acid Residue of Prostaglandin EP3 Receptor for Governing G Protein Association and Activation Steps	**Shuji Satoh, Chang-sheng Chang, Hironori Katoh, Hiroshi Hasegawa, Kazuhiro Nakamura, Junko Aoki, Hirotada Fujita, Atsushi Ichikawa, and Manabu Negishi**	164
Identification of Myosin II as a Binding Protein to the PH Domain of Protein Kinase B	**Motonari Tanaka, Hiroaki Konishi, Kazushige Touhara, Fumio Sakane, Masato Hirata, Yoshitaka Ono, and Ushio Kikkawa**	169
Molecular Cloning of CLC Chloride Channels in *Oreochromis Mossambicus* and Their Functional Complementation of Yeast *CLC* Gene Mutant	**Hiroaki Miyazaki, Shinichi Uchida, Yoshio Takei, Tetsuya Hirano, Fumiaki Marumo, and Sei Sasaki**	175
Molecular Cloning and Expression of a Second Glucuronyltransferase Involved in the Biosynthesis of the HNK-1 Carbohydrate Epitope	**Takashi Seiki, Shogo Oka, Koji Terayama, Kimiyuki Imiya, and Toshisuke Kawasaki**	182

Number 2, February 16, 1999

BREAKTHROUGHS AND VIEWS

Human Glycosylation Disorders and Sugar Supplement Therapy	**Hudson H. Freeze**	189

REGULAR ARTICLES

Phage Display *cDNA* Cloning of Protein with Carbohydrate Affinity	**Miyako Yamamoto, Yoshihiko Kominato, and Fumiichiro Yamamoto**	194
Overexpression of Protein Tyrosine Phosphatase-α (PTP-α) but not PTP-κ Inhibits Translocation of GLUT4 in Rat Adipose Cells	**Li-Na Cong, Hui Chen, Yunhua Li, Chung H. Lin, Jan Sap, and Michael J. Quon**	200
Regulation of Egr-1-Dependent Gene Expression by the C-Terminal Activation Domain	**Uwe Gosslar, Roland M. Schmid, and Bernhard Holzmann**	208
Three Kinds of Guanylate Cyclase Expressed in Medaka Photoreceptor Cells in Both Retina and Pineal Organ	**Osamu Hisatomi, Hanayo Honkawa, Yoshikazu Imanishi, Takunori Satoh, and Fumio Tokunaga**	216

Immortal Brown Adipocytes from *p53*-Knockout Mice: Differentiation and Expression of Uncoupling Proteins	**Yukiko Irie, Atsushi Asano, Xavier Cañas, Hideki Nikami, Shin-ichi Aizawa, and Masayuki Saito**	**221**
Proinsulin-like Growth Factor-II Overexpression Does Not Alter Monoallelic *H19* Gene Expression in Transfected Human Embryonic Kidney Fibroblasts	**Wieland Kiess, Jean Paquette, Gabriele Koepf, Eckard Wolf, and Cheri Deal**	**226**
The N-Terminus of $K_{IR}6.2$ Limits Spontaneous Bursting and Modulates the ATP-Inhibition of K_{ATP} Channels	**Andrey P. Babenko, Gabriela Gonzalez, and Joseph Bryan**	**231**
Characterization of *Mycobacterium smegmatis* Mutants Defective in 1-D-*myo*-Inosityl-2-amino-2-deoxy-α-D-glucopyranoside and Mycothiol Biosynthesis	**Gerald L. Newton, Mia D. Unson, Sara J. Anderberg, Joseph A. Aguilera, Nancy N. Oh, Stephen B. delCardayre, Yossef Av-Gay, and Robert C. Fahey**	**239**
The LIM Proteins FHL1 and FHL3 Are Expressed Differently in Skeletal Muscle	**M. J. Morgan and A. J. A. Madgwick**	**245**
The Fourth Member of the FHL Family of LIM Proteins Is Expressed Exclusively in the Testis	**M. J. Morgan and A. J. A. Madgwick**	**251**
Identification of a Site of Hsp27 Binding with Hsp27 and αB-Crystallin as Indicated by the Yeast Two-Hybrid System	**Chenghua Liu and Michael J. Welsh**	**256**
Involvement of Reactive Oxygen Species Produced via NADPH Oxidase in Tyrosine Phosphorylation in Human B- and T-Lineage Lymphoid Cells	**Yoshihiro Suzuki and Yasushi Ono**	**262**
Smad6 Suppresses TGF-β-Induced Growth Inhibition in COLO-357 Pancreatic Cancer Cells and Is Overexpressed in Pancreatic Cancer	**Jörg Kleeff, Haruhisha Maruyama, Helmut Friess, Markus W. Büchler, Dean Falb, and Murray Korc**	**268**
Extractive Cultivation of Recombinant *Escherichia coli* Using Aqueous Two Phase Systems for Production and Separation of Extracellular Xylanase	**N. Kulkarni, A. Vaidya, and M. Rao**	**274**
Regulation of Macrophage Inflammatory Protein-1α Expression and Function by Endogenous Interleukin-10 in a Model of Acute Inflammation	**Maureen N. Ajuebor, Anuk M. Das, László Virág, Csaba Szabó, and Mauro Perretti**	**279**
Human LAT1, a Subunit of System L Amino Acid Transporter: Molecular Cloning and Transport Function	**Puttur D. Prasad, Haiping Wang, Wei Huang, Ramesh Kekuda, Deva P. Rajan, Frederick H. Leibach, and Vadivel Ganapathy**	**283**
Structural and Functional Analysis of the *LaMDR1* Multidrug Resistance Gene in *Leishmania amazonensis*	**Ken Katakura, Masaki Iwanami, Hiroshi Ohtomo, Hiroshi Fujise, and Yoshihisa Hashiguchi**	**289**
Liberation of Hydrogen Sulfide during the Catalytic Action of *Desulfovibrio* Hydrogenase under the Atmosphere of Hydrogen	**Yoshiki Higuchi and Tatsuhiko Yagi**	**295**
Altered Expression of Hepatic *CYP2E1* and *CYP4A* in Obese, Diabetic *ob/ob* Mice, and *fa/fa* Zucker Rats	**Annabelle Enriquez, Isabelle Leclercq, Geoffrey C. Farrell, and Graham Robertson**	**300**

Roles of the Four Cysteine Residues in the Function of the Integral Inner Membrane Hg^{2+}-Binding Protein, MerC	**Lena Sahlman, Eva-Maj Hägglöf, and Justin Powlowski**	**307**
RNA Helicase-Related Genes of *Plasmodium falciparum* and *Plasmodium cynomolgi*	**Ping Song, Pawan Malhotra, Narendra Tuteja, and Virender Singh Chauhan**	**312**
NADH Peroxidase Activity of Rubrerythrin	**E. D. Coulter, N. V. Shenvi, and D. M. Kurtz, Jr.**	**317**
Drought Induces Many Forms of Cysteine Proteases Not Observed during Natural Senescence	**Renu Khanna-Chopra, B. Srivalli, and Y. S. Ahlawat**	**324**
Isolation of a Gene Encoding a Glycosylated Cytokinin Oxidase from Maize	**Roy O. Morris, Kristin D. Bilyeu, James G. Laskey, and Nordine N. Cheikh**	**328**
Biophysical Characterization of the Oligomeric State of Bax and Its Complex Formation with Bcl-X_L	**Yee-Joo Tan, Walter Beerheide, and Anthony E. Ting**	**334**
Intracellular Localization of SNAP-23 to Endosomal Compartments	**Dong Chen and Sidney W. Whiteheart**	**340**
Cloning and Identification of the Gene Gob-5, Which Is Expressed in Intestinal Goblet Cells in Mice	**Tohru Komiya, Yoko Tanigawa, and Setsuo Hirohashi**	**347**
Excessive Extramedullary Hematopoiesis in Cbfa1-Deficient Mice with a Congenital Lack of Bone Marrow	**Kenji Deguchi, Hideshi Yagi, Masahiko Inada, Kazuyuki Yoshizaki, Tadamitsu Kishimoto, and Toshihisa Komori**	**352**
Physico Chemical Modeling of the Role of Free Radicals in Photodynamic Therapy. IV. Quantitative Aspects of Photodynamic Effects on Free Radicals Generated in Cell Cultures	**András Németh, Judit Jakus, Tamás Kriska, Ágnes Keszler, Rozália Vanyur, and Dezsõ Gál**	**360**
Dopamine D4-like Binding Sites Labeled by [^{3}H]Nemonapride Include Substantial Serotonin 5-HT2A Receptors in Primate Cerebral Cortex	**Kyoko Noda-Saita, Mitsuyuki Matsumoto, Kazuyuki Hidaka, Ken-ichi Hatanaka, Junya Ohmori, Masamichi Okada, and Tokio Yamaguchi**	**367**
1,25-Dihydroxyvitamin D_3 Suppresses the Expression of the VCAM-1 Receptor, VLA-4 in Human Leukemic HL-60 Cells	**Atsuko Kaneko, Satoru Suzuki, Masahiro Hara, Jun-ichirou Mori, Mieko Kumagai, Hiroki Yajima, Koh Yamashita, Tomoko Kakizawa, Masanori Yamazaki, Teiji Takeda, Takahide Miyamoto, Kazuo Ichikawa, and Kiyoshi Hashizume**	**371**
Low Density Lipoprotein (LDL)-Mediated Suppression of Lewis Lung Carcinoma in Hypercholesterolemic LDL Receptor-Deficient Mice	**Vuong N. Trieu and Fatih M. Uckun**	**377**
Intrinsically Fluorescent Luteinizing Hormone Receptor Demonstrates Hormone-Driven Aggregation	**Regina D. Horvat, Scott Nelson, Colin M. Clay, B. George Barisas, and Deborah A. Roess**	**382**
Toward Selection of Internalizing Antibodies from Phage Libraries	**Baltazar Becerril, Marie-Alix Poul, and James D. Marks**	**386**

A Novel Cytochrome P450 3A Isoenzyme in Rat Intestinal Microsomes	**Ghennady V. Gushchin, Marina I. Gushchin, Nicholas Gerber, and R. Thomas Boyd**	**394**
Compensatory Expression of p73 in PARP-Deficient Mouse Fibroblasts as Response to a Reduced Level of Regularly Spliced Wild-Type p53 Protein	**Gerald Schmid, Zhao-Qi Wang, and Jozefa Wesierska-Gadek**	**399**
Calmodulin Functions as an Activator of Pur α Binding to Single-Stranded Purine-Rich DNA Elements (*PUR* Elements)	**Che-Hui Kuo, Etsuko Nishikawa, Hisashi Ichikawa, Tetsushi Sadakata, San-Yong Niu, and Naomasa Miki**	**406**
cDNA Cloning and Expression of Acutin, a Thrombin-Like Enzyme from *Agkistrodon* acutus	**Hua Pan, Xiaoyan Du, Guangzhen Yang, Yuancong Zhou, and Xiangfu Wu**	**412**
Extracellular Role of S100A4 Calcium-Binding Protein in the Periodontal Ligament	**Wagner R. Duarte, Tadahiro Iimura, Keizo Takenaga, Keiichi Ohya, Isao Ishikawa, and Shohei Kasugai**	**416**
Tissue-Specific Expression and Endogenous Subcellular Distribution of the Inositol 1,3,4,5-Tetrakisphosphate-Binding Proteins $GAP1^{IP4BP}$ and $GAP1^{m}$	**Peter J. Lockyer, Sara Vanlingen, Jon S. Reynolds, Tracy J. McNulty, Robin F. Irvine, Jan B. Parys, and Peter J. Cullen**	**421**
Cloning, Sequencing, and Transcriptional Studies of the Gene Encoding Copper-Containing Nitrite Reductase from *Alcaligenes xylosoxidans* NCIMB 11015	**Eiji Suzuki, Naoko Horikoshi, and Takamitsu Kohzuma**	**427**
The Complete Coding Sequence of a European Isolate of GB-C/Hepatitis G Virus	**Rémi N. Charrel, Houssam Attoui, Philippe De Micco, and Xavier de Lamballerie**	**432**
Involvement of Oxidative Reactions and Extracellular Protein Chaperones in the Rescue of Misassembled Thyroglobulin in the Follicular Lumen	**Frédéric Delom, Pierre-Jean Lejeune, Liliane Vinet, Pierre Carayon, and Bernard Mallet**	**438**
A Bacterial Signal Peptidase Enhances Processing of a Recombinant Single Chain Antibody Fragment in Insect Cells	**Eric Ailor, Jay Pathmanathan, Jan D. H. Jongbloed, and Michael J. Betenbaugh**	**444**
N-Linked Oligosaccharides of Vomeromodulin, a Putative Pheromone Transporter in Rat	**Yehia Mechref, Weidong Ma, Gang Hao, and Milos V. Novotny**	**451**
N-Oleoylethanolamine Inhibits Glucosylation of Natural Ceramides in CHP-100 Neuroepithelioma Cells: Possible Implications for Apoptosis	**Angelo Spinedi, Sabrina Di Bartolomeo, and Mauro Piacentini**	**456**
The Adhesion of Anti-CD3-Activated Mouse T Cells to Syngeneic Colon Adenocarcinoma Cells Is Differentially Regulated by Protein Tyrosine Kinase-, Protein Kinase C-, and cAMP-Dependent Pathways in the Effector Cell	**Willena M. MacKenzie, David W. Hoskin, and Jonathan Blay**	**460**
Early Decrease of IIx Myosin Heavy Chain Transcripts in Duchenne Muscular Dystrophy	**Marina Pedemonte, Claudia Sandri, Stefano Schiaffino, and Carlo Minetti**	**466**
Genomic Organization, Sequence Analysis and Transcriptional Regulation of the Human MCP-4 Chemokine Gene (SCYA13) in Dermal Fibroblasts: A Comparison to Other Eosinophilic β-Chemokines	**Herbert Hein, Carsten Schlüter, Reinhard Kulke, Enno Christophers, Jens-M. Schröder, and Joachim Bartels**	**470**

Activation of Caspase 3 in HL-60 Cells Exposed to Hydrogen Peroxide	**Anna M. DiPietrantonio, Tze-chen Hsieh, and Joseph M. Wu**	**477**
Isolation and Characterization of the Mouse *Aire* Gene	**Lauréane Mittaz, Colette Rossier, Maarit Heino, Pärt Peterson, Kai J. E. Krohn, Arnaud Gos, Michael A. Morris, Jun Kudoh, Nobuyoshi Shimizu, Stylianos E. Antonarakis, and Hamish S. Scott**	**483**
Nitrogen-Containing Bisphosphonates Inhibit Isopentenyl Pyrophosphate Isomerase/Farnesyl Pyrophosphate Synthase Activity with Relative Potencies Corresponding to Their Antiresorptive Potencies *in Vitro* and *in Vivo*	**Ermond van Beek, Elsbet Pieterman, Louis Cohen, Clemens Löwik, and Socrates Papapoulos**	**491**
The Amino Terminal Regions of proBNP and proANP Oligomerise through Leucine Zipper-like Coiled-coil Motifs	**Tim Seidler, Chris Pemberton, Tim Yandle, Eric Espiner, Gary Nicholls, and Mark Richards**	**495**
Ral and Rho-Dependent Activation of Phospholipase D in v-Raf-Transformed Cells	**Paul Frankel, Miguel Ramos, Judith Flom, Sergei Bychenok, Troy Joseph, Eugen Kerkhoff, Ulf R. Rapp, Larry A. Feig, and David A. Foster**	**502**
Molecular Cloning and Characterization of Two Novel Human Renal Organic Anion Transporters (hOAT1 and hOAT3)	**JoAnne E. Race, Steven M. Grassl, William J. Williams, and Eli J. Holtzman**	**508**
The Effect of Amiodarone on the β-Adrenergic Receptor Is Due to a Downregulation of Receptor Protein and Not to a Receptor–Ligand Interaction	**V. Drvota, J. Häggblad, I. Blange, Y. Magnusson, and S. Sylvén**	**515**
Complementation of the *fol2* Deletion in *Saccharomyces cerevisiae* by Human and *Escherichia coli* Genes Encoding GTP Cyclohydrolase I	**Roberta Mancini, Francesca Saracino, Giacomo Buscemi, Markus Fischer, Nicholas Schramek, Andreas Bracher, Adelbert Bacher, Markus Gütlich, and Maria Luisa Agostoni Carbone**	**521**
Analysis of the Consensus Binding Sequence and the DNA-Binding Domain of ZF5	**Takuya Obata, Akifumi Yanagidani, Ken Yokoro, Michitaka Numoto, and Shoso Yamamoto**	**528**
Possibility of the Transformation of eEF-2 (100 kDa) to eEF-2 (65 kDa) in the Peptide Elongation Process *in Vitro*	**Anna Gajko, Krystyna Średzińska, Władysław Gałasiński, and Andrzej Gindzieński**	**535**
Formation of a Uniquely Stable Type I Interferon Receptor Complex by Interferon β Is Dependent upon Particular Interactions between Interferon β and Its Receptor and Independent of Tyrosine Phosphorylation	**Dean Russell-Harde, T. Charis Wagner, H. Daniel Perez, and Ed Croze**	**539**
VEGF Stimulates MAPK through a Pathway That Is Unique for Receptor Tyrosine Kinases	**A. Masharn Doanes, Donald D. Hegland, Rachna Sethi, Imre Kovesdi, Joseph T. Bruder, and Toren Finkel**	**545**

ERRATA

Volume **247,** Number 2 (1998), in Article No. RC988794, "Expression of Peroxisome Proliferator-Activated Receptor γ (PPARγ) in Rat Aortic Smooth Muscle Cells," by Katsuya Iijima, Masao Yoshizumi, Junya Ako, Masato Eto, Seungbum Kim, Masayoshi Hashimoto, Naota Sugimoto, Yi-Qiang Liang, Noriko Sudoh, Kenji Toba, and Yasuyoshi Ouchi, pages 353–356 **549**

Volume **253,** Number 3 (1998), in Article No. RC989834, "Nitrilase Catalyzes Amide Hydrolysis as Well as Nitrile Hydrolysis," by Michihiko Kobayashi, Masahiko Goda, and Sakayu Shimizu, pages 662–666 **549**

Number 3, February 24, 1999

BREAKTHROUGHS AND VIEWS

Osmotic Induction of Signaling Cascades: Role in Regulation of Cell Function — **Dieter Häussinger and Freimut Schliess** — **551**

REGULAR ARTICLES

Intergenic Transcription Occurs throughout the Human IL-4/IL-13 Gene Cluster — **David F. Rogan, David J. Cousins, and Dontcho Z. Staynov** — **556**

Oxidation of α1-Proteinase Inhibitor by the Myeloperoxidase–Hydrogen Peroxidase System Promotes Binding to Immunoglobulin A — **L. J. Scott, G. I. Russell, N. B. Nixon, P. T. Dawes, and D. L. Mattey** — **562**

Actin Polymerization Induces Shedding of FcγRIIIb (CD16) from Human Neutrophils — **P. J. Middelhoven, J. D. van Buul, M. Kleijer, D. Roos, and P. L. Hordijk** — **568**

Molecular Cloning and Functional Characterization of Rat Δ-6 Fatty Acid Desaturase — **Tsunehiro Aki, Yayoi Shimada, Katsuya Inagaki, Hirofumi Higashimoto, Seiji Kawamoto, Seiko Shigeta, Kazuhisa Ono, and Osamu Suzuki** — **575**

Reduction of Caveolin 1 Gene Expression in Lung Carcinoma Cell Lines — **Claudia Racine, Martin Bélanger, Hirohisa Hirabayashi, Maryléne Boucher, Jamila Chakir, and Jacques Couet** — **580**

Mechanism of Ret Activation by a Mutation at Aspartic Acid 631 Identified in Sporadic Pheochromocytoma — **Naoya Asai, Toshihide Iwashita, Hideki Murakami, Hiroki Takanari, Kenji Ohmori, Masatoshi Ichihara, and Masahide Takahashi** — **587**

Thimet Oligopeptidase (EC 3.4.24.15), a Novel Protein on the Route of MHC Class I Antigen Presentation — **Celio L. Silva, Fernanda C. V. Portaro, Vânia L. D. Bonato, Antonio C. M. de Camargo, and Emer S. Ferro** — **591**

Thimet Oligopeptidase and the Stability of MHC Class I Epitopes in Macrophage Cytosol — **Fernanda C. V. Portaro, Marcelo D. Gomes, Adriana Cabrera, Beatriz L. Fernandes, Celio L. Silva, Emer S. Ferro, Luis Juliano, and Antonio C. M. de Camargo** — **596**

SRPK1 and LBR Protein Kinases Show Identical Substrate Specificities — **Stamatia Papoutsopoulou, Eleni Nikolakaki, and Thomas Giannakouros** — **602**

Interference Mapping of Nuclear Protein Binding to the Acute Phase Response Element of the Mouse α_1 Acid Glycoprotein Gene — **Jeffrey P. Rabek and John Papaconstantinou** — **608**

IGF-I Regulates IRS-1 Expression in 3T3-L1 Adipocytes — **K. Michael Rice and Charles W. Garner** — **614**

Direct Interaction between a Quinoline Derivative, MS-209, and Multidrug Resistance Protein (MRP) in Human Gastric Cancer Cells	**Takashi Nakamura, Mikio Oka, Kikuo Aizawa, Hiroshi Soda, Minoru Fukuda, Kenji Terashi, Koki Ikeda, Yohei Mizuta, Yuji Noguchi, Yoshimitsu Kimura, Takashi Tsuruo, and Shigeru Kohno**	**618**
Differential Regulation of Ligand-Dependent and Ligand-Independent Functions of the Mouse Retinoid X Receptor β by Alternative Splicing	**Atsushi Fujita and Tomoaki Mitsuhashi**	**625**
Identification of Ribosomal Protein L34 as a Novel Cdk5 Inhibitor	**Mark Moorthamer and Bhabatosh Chaudhuri**	**631**
Assembly of Lipoprotein (a) in Transgenic Rabbits Expressing Human Apolipoprotein (a)	**Jianglin Fan, Masahiro Araki, Lihua Wu, Mireille Challah, Hiroaki Shimoyamada, Richard M. Lawn, Hirotoshi Kakuta, Hisakata Shikama, and Teruo Watanabe**	**639**
Cloning and Localization of Rab3 Isoforms in Bovine, Rat, and Human Parathyroid Glands	**Zhengmin Huang, Cindy Ritter, Alex Brown, Jane Finch, Yousef Abu-Amer, Patrick Ross, and Eduardo Slatopolsky**	**645**
Expression of Human Kidney 11β-Hydroxysteroid Dehydrogenase (11-HSD2) in Bacteria	**B. Scott Nunez, Tomoatsu Mune, and Perrin C. White**	**652**
A Cellulose-Binding Domain-Fused Recombinant Human T Cell Connective Tissue-Activating Peptide-III Manifests Heparanase Activity	**Meirav Rechter, Ofer Lider, Liora Cahalon, Ehud Baharav, Mara Dekel, Daniel Seigel, Israel Vlodavsky, Helena Aingorn, Irun R. Cohen, and Oded Shoseyov**	**657**
X11L2, a New Member of the X11 Protein Family, Interacts with Alzheimer's β-Amyloid Precursor Protein	**Hiroshi Tanahashi and Takeshi Tabira**	**663**
An Antisense Transcript to *SMAD5* Expressed in Fetal and Tumor Tissues	**Jiri Zavadil, Petr Svoboda, Hong Liang, Lazar V. Kottickal, and Lalitha Nagarajan**	**668**
Photodynamic Therapy-Induced Apoptosis in Lymphoma Cells: Translocation of Cytochrome c Causes Inhibition of Respiration as Well as Caspase Activation	**Marie E. Varnes, Song-Mao Chiu, Liang-Yan Xue, and Nancy L. Oleinick**	**673**
17β-Estradiol Induces Apoptosis in the Preosteoclastic FLG 29.1 Cell Line	**S. Zecchi-Orlandini, L. Formigli, A. Tani, S. Benvenuti, G. Fiorelli, L. Papucci, S. Capaccioli, G. E. Orlandini, and M. L. Brandi**	**680**
Coincubation of Bovine Synovial or Capsular Tissue with Cartilage Generates a Soluble "Aggrecanase" Activity	**Mireille N. Vankemmelbeke, Mirna Z. Ilic, Christopher J. Handley, C. Graham Knight, and David J. Buttle**	**686**
Up-Regulation of Integrin α5 by a C-Terminus Four-Amino-Acid Sequence of Substance P (Phenylalanine-Glycine-Leucine-Methionine-Amide) Synergistically with Insulin-like Growth Factor-1 in SV-40 Transformed Human Corneal Epithelial Cells	**Tai-ichiro Chikama, Masatsugu Nakamura, and Teruo Nishida**	**692**

Acute Effects of Exercise on Circulating Leptin in Lean and Genetically Obese *fa/fa* Rats	**Claudio Pagano, Marco Marzolo, Marnie Granzotto, Daniel Ricquier, Giovanni Federspil, and Roberto Vettor**	**698**
Cloning of BRAK, a Novel Divergent CXC Chemokine Preferentially Expressed in Normal versus Malignant Cells	**Robert Hromas, Hal E. Broxmeyer, Chang Kim, Harikrishna Nakshatri, Kent Christopherson II, Mohd Azam, and Yong-Hao Hou**	**703**
Mapping of the Human Voltage-Dependent Anion Channel Isoforms 1 and 2 Reconsidered	**Angela Messina, Marta Oliva, Cecilia Rosato, Marjan Huizing, Wim Ruitenbeek, Lambert P. van den Heuvel, Michael Forte, Mariano Rocchi, and Vito De Pinto**	**707**
Novel *Dictyostelium* Unconventional Myosin MyoK Is a Class I Myosin with the Longest Loop-1 Insert and the Shortest Tail	**Moeru Yazu, Hiroyuki Adachi, and Kazuo Sutoh**	**711**
Cloning and Characterization of a cDNA Encoding a Novel Fibroblast Growth Factor Preferentially Expressed in Human Heart	**L. D. S. Kok, S. K. W. Tsui, M. Waye, C. C. Liew, C. Y. Lee, and K. P. Fung**	**717**
Effects of Wild-Type and Mutated p53 and Id Proteins on the Induction of Apoptosis by Adenovirus E1A, c-Myc, Bax, and Nip3 in p53 Null Mouse Cerebellum Cells	**Haruki Tsunoda, Tomoko Terasawa, Mika Yageta, Takuma Nakajima, Yasuhiro Tomooka, Nobuo Tsuchida, and Kinichiro Oda**	**722**
Capacity of a Low Calcium Diet to Induce the Renal Vitamin D 1a-Hydroxylase Is Decreased in Adult Rats	**H. J. Armbrecht, T. L. Hodam, M. A. Boltz, and V. B. Kumar**	**731**
Antiangiogenic Activity of Restin, NC10 Domain of Human Collagen XV: Comparison to Endostatin	**Ramani Ramchandran, Mohanraj Dhanabal, Ruediger Volk, Matthew J. F. Waterman, Mark Segal, Hua Lu, Bertrand Knebelmann, and Vikas P. Sukhatme**	**735**
Hepatocyte Growth Factor Activator Inhibitor Type 2 Lacking the First Kunitz-Type Serine Proteinase Inhibitor Domain Is a Predominant Product in Mouse but Not in Human	**Hiroshi Itoh, Hiroaki Kataoka, Ryoichi Hamasuna, Naomi Kitamura, and Masashi Koono**	**740**
Analysis of Mitochondrial Targeting Sequence and Coding Region Polymorphisms of the Manganese Superoxide Dismutase Gene in German Parkinson Disease Patients	**E. M. Grasbon-Frodl, S. Kösel, O. Riess, U. Müller, P. Mehraein, and M. B. Graeber**	**749**
Effect of Antisense Human Telomerase RNA Transfection on the Growth of Human Gastric Cancer Cell Lines	**Kazuhito Naka, Hiroshi Yokozaki, Wataru Yasui, Hidetoshi Tahara, Eiji Tahara, and Eiichi Tahara**	**753**
Characterization of Genomic Regions Directing the Cell-Specific Expression of the Mouse Aldose Reductase Gene	**Hang Li, Yoshitaka Nobukuni, Tong Gui, and Chihiro Yabe-Nishimura**	**759**
Human Phenylalanyl-tRNA Synthetase: Cloning, Characterization of the Deduced Amino Acid Sequences in Terms of the Structural Domains and Coordinately Regulated Expression of the α and β Subunits in Chronic Myeloid Leukemia Cells	**Marianna Rodova, Valentina Ankilova, and Mark G. Safro**	**765**

Muscarinic M3 and Epidermal Growth Factor Receptors Activate Mutually Inhibitory Signaling Cascades in Human Neuroblastoma SH-SY5Y Cells	**Liang Zhang and Richard S. Jope**	**774**
Parathyroid Hormone-Regulated Production of Stem Cell Factor in Human Osteoblasts and Osteoblast-like Cells	**Harry C. Blair, Bruce A. Julian, Xu Cao, S. Elizabeth Jordan, and Sai-Sai Dong**	**778**
Intracellular Expression of a Cloned Antibody Fragment Interferes with Hepatitis B Virus Surface Antigen Secretion	**Jasper zu Putlitz, Arne Skerra, and Jack R. Wands**	**785**
Author Index for Volume 255		**792**

NOTICE

The Subject Index for Volume 255 will appear as part of a cumulative index for the year 1999.